



# USAF Recruit Mortality Data

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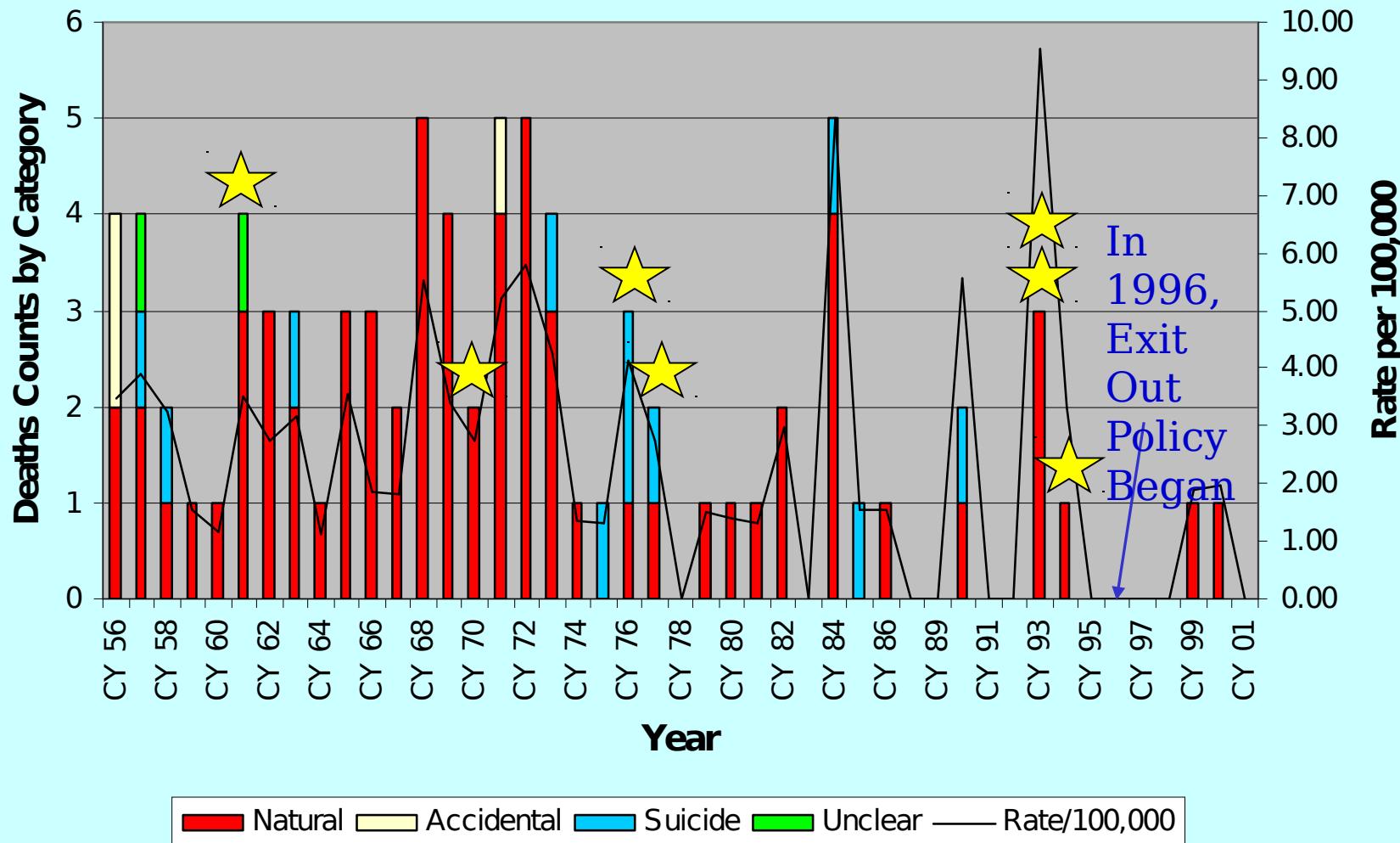
# Outline

- Background
- Update to USAF Recruit Mortality Study
- SCT + data from Lackland AFB
- Conclusion

# Background

- USAF BMT screens all recruits upon entry
  - Screened with “Sickle prep”
  - Confirmed with hemoglobin electrophoresis
- counseled on increased risk for medical complications
- Given the option to leave military service

# USAF Recruit Mortality: CY 56-01



87 deaths from 1956-2001 (85 M & 2 F)

★ SCT-related deaths

# Cause of Death

<b>Cause of Death</b>	<b>N</b>	<b>%</b>
Natural	71	81.6%
Suicide	11	12.6%
Accident	3	3.4%
Unclassified	2	2.3%
<b>Total</b>	<b>87</b>	<b>100%</b>

36 cases with known day of training  
25 (69.4%) occurred during first 3 wks  
11 (30.5%) occurred afterwards

# **Deaths among USAF Recruits with Positive SCT:1956-2001**

- 7 recruits positive SCT
  - All black between 18-22 yrs of age

<b>Cause of Death</b>	<b>N</b>
Sudden death	3
Rhabdomyolysis	2
Meningiococcemia*	1
Suicide*	1
<b>Total</b>	<b>7</b>

\*SCT not viewed as a risk factor for meningococcemia or suicide. Existence of both conditions was coincidental

# +SCT Deaths: 1956-2001

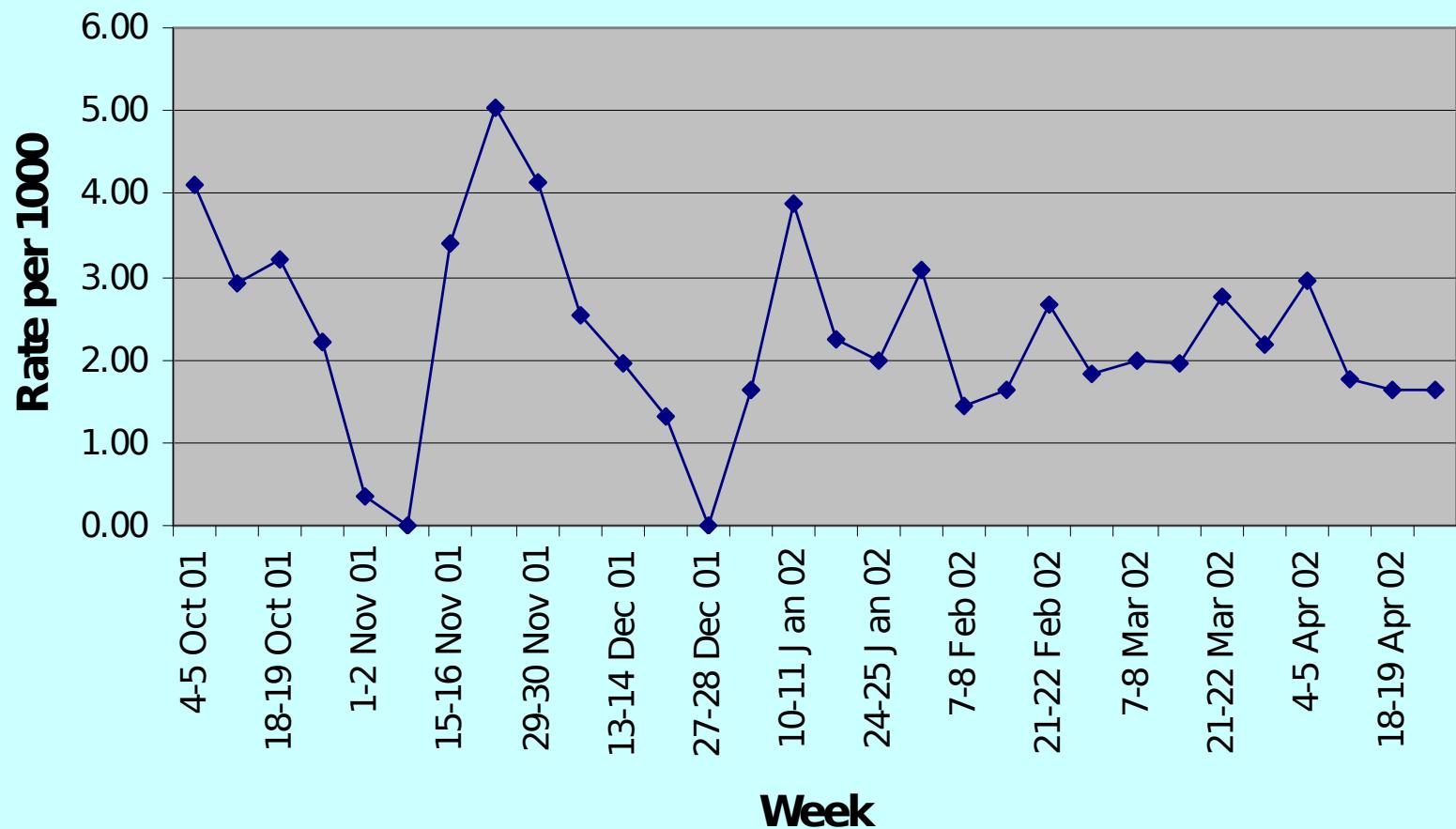
- 5 SCT+ deaths temporally related to exercise
  - 4 occurred during warmest months (May - Sep)
- Kark found 28-40X higher exertion-induced sudden unexplained death among heterozygous recruits from 1977-1981
- Neuhauser calculated a risk ratio of 23.53 (19.55 ,30.01) for non-traumatic deaths from 1986-1994 using autopsy data on recruit deaths

J. A. Kark, D. M. Posey, H. R. Schumacher and C. J. Ruehle. Sickle-cell trait as a risk factor for sudden death in physical training. N Engl J Med 1987; 317(13):781-7.

K. M. Neuhauser, T. S. Neuhauser and G. V. Blackwood, D. Drehner. Death among U.S. Air Force basic trainees, 1956 to 1996. Mil Med 1999;

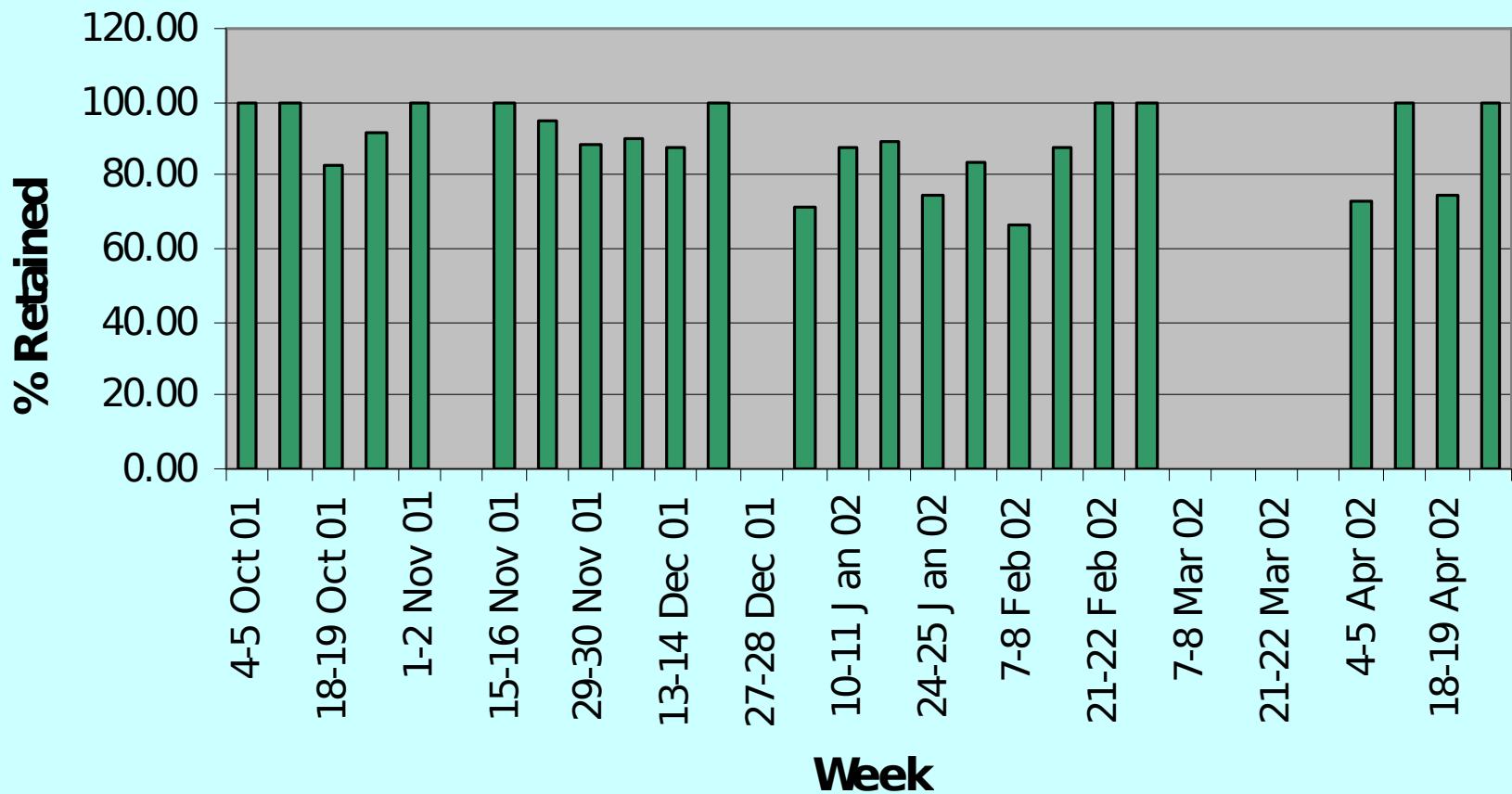
## **SS+Rate per 1000 for USAF Recruits**

### **Oct 01 - Apr 02**



Average rate = 2.84/1000 per week

## **% of SS+Individuals Retained Oct 01 - Apr 02**



Average of 89% recruits retained per week during weeks with available data

# Conclusions

- Few USAF recruit deaths in any given year
- Most deaths occur during first 3 wks of training
- Only 7 of 87 deaths from 1956-2001 were SCT +
- SCT+ deaths temporally associated with exercise
- Higher RR for SCT+ non-traumatic deaths
- No information on exertional deaths among SCT+ individuals after basic training
- Lackland AFB identifies 3 +SCT /1000/wk
- Lackland AFB retains 89% of +SCT recruits after preventive counseling

# Contact Information

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